

**Undescribed plants from Guatemala. IX.**

JOHN DONNELL SMITH.

(WITH PLATES XVI, XVII, XVIII.)

New species, described by Prof. L. Radlkofer and by Dr. M. T. Masters, are included among those of this paper.

**Serjania rufisepala** Radlk.—Scandens, fruticosa, glabra; rami canaliculato-6-sulcati, cortice subfusco; corpus lignosum simplex, sulcatum (fasciculis vasorum angulis subjectis corporum lignosorum periphericorum speciem interdum præbentibus ut in *Serjania sordida* affinibusque); folia biternata; foliola sat magna, elliptica, superiora acuminato-cuspidata, terminalia in petiolulum attenuata, lateralia sessilia, omnia integerrima, subcoriacea, penninervia, nervis lateralibus utrinque 5-6 validioribus arcuato-adscendentibus supra subtusque prominulis, utrinque glaberrima, nec nisi glandulis microscopicis adpersa, supra nitida, fuscescenti-viridia, punctis pellucidis subfuscis notata, epidermide mucigera; petioli omnes nudi; thyrsi in ramis lateralibus paniculatim congesti; cincinni sessiles; flores minores; sepala omnia rufescenti-tomentella; fructus (—immaturi tantum suppetebant) pulchre sanguinei, breviter ovati, loculis canescenti-puberulis, alis glabris.

*Rami* thyrsigeri diametro 4-5 mm. *Folia* circ. 20 cm longa, 14 cm lata; foliola terminalia petiolulo 8 mm longo adjecto 11 cm longa, 5 cm lata, lateralia decrescentim minora; petiolus communis 3.5 cm longus; stipulæ minutæ. *Thyrsi* circ. 7 cm longi, rhachi puberula; cincinni abbreviati; pedicelli breves, fructigeri 3 mm longi. *Flores (masculi)*: sepala interiora 2.5 mm longa. *Petalata* sepalis vix longiora, intus glanduligera; squamæ superiores crista bifida appendiceque deflexa brevi dense villosa-barbata, inferiores crista oblique dentiformi instructæ. *Tori* glandulæ ovatæ, basi puberulæ. *Staminum* filamenta villosiuscula, antheræ glabræ. *Germinis* rudimentum parvum, trigonum, puberulum. *Fructus* (immaturus) 2-2.2 cm longus, 1.8 cm latus.—*Obs.* Affinis *Serj. sordidæ* Radlk. (Sect. xi; cf. Radlk. *Serjanis* Monogr. p. 272; Suppl. p. 141).

Tres Cruces, Dept. Alta Verapaz, alt. 4,800 ft., Apr. 1889, J. D. S., (Ex Pl. Guat., qu. edid. J. D. S., 1766).

**Serjania psilophylla** Radlk. (*Serjania spec.*, John Donnell Smith Enumeratio Plantarum Guatemalensium, Pars I, 1889, n. 1153.)—Scandens, fruticosa, glabra; rami 6-sulcati, cortice viridi pallide subfusco, ad costas rubescente; corpus lignosum simplex, hexagonum, leviter sulcatum; folia biternata; foliola ex oblongo vel ovato lanceolata, præsertim terminalia

in acumen acutum sensim attenuata eademque in petiolulum conspicuum attenuata, lateralia in petiolulos breves contracta vel subsessilia, omnia integerrima, penninervia, nervis lateralibus utrinque 7-9 curvato-adscendentibus supra subtusque prominulis, infimis eorum reliquis vix longioribus, utrinque glaberrima, nec nisi glandulis microscopicis adspersa, nitidula, submembranacea, e viridi pallide fuscescentia, punctis lineolisque pellucidis subfuscis notata, epidermide mucigera; petioli omnes nudi; thyrsi in ramulis lateralibus paniculatim congesti, glabri; cincinni subsessiles; flores mediocres; sepala pulverulento-puberula; fructus . . . .

*Rami* thyrsigeri diametro 3 mm. *Folia* 18-20 cm longa; foliola terminalia petiolulo 6 mm longo adjecto 10.5 cm longa, 3 cm lata, lateralia decrescentim minora; petiolus communis 4 cm longus; stipulæ minutæ. *Cincinni* contracti, circ. 6-flori; pedicelli 2-2.5 mm longi, supra basin articulati; alabastra obovoidea, 2 mm longa. *Flores hermaphroditi: sepala* interiora 3 mm longa. *Petalata* ex oblongo attenuata, 3.5 mm longa, intus laxe glanduligera; squamæ (cristis exclusis) petala dimidia æquant, margine villosiusculæ, superiores crista usque ad basin bifida (laciniis subacutis erectis) appendiceque deflexa brevi obtusa dense villosa-barbata, inferiores crista corniformi erecta instructæ. *Tori* glandulæ ovatae. *Stamina*: filamenta villosiuscula; antheræ glabræ. *Germen* pyriforme, trigonum, minutim canescenti-puberulum; stylus brevis; stigmata stylum æquantia.—*Obs.* Affinis *Serj. acuta* Tr. et Planch. (Sect. xi; cf. Radlk. *Serjanie* Monogr. p. 274. Suppl. p. 142).

Rocks at Coban, Dept. Alta Verapaz, alt. 4,300 ft., March, 1887, v. Türckheim, (Ex Pl. cit. 1153).

***Serjania rachiptera*** Radlk.—Scandens, fruticosa, glabriuscula; rami 6-costati, striato-sulcati, glabri, juniores tantum crispato-puberuli, cortice viridi ad costas pallide subfusco; corpus lignosum simplex, sulcatum, medulla ampliore repletum; folia ambitu triangularia, bipinnata vel pinnarum infimarum pinnulis infimis in foliolorum triades dissociatis transeuntia insupra decomposita, 6-8-juga, pinnis inferioribus 4-jugis, superioribus decrescentibus, summis foliola simplicia exhibentibus; foliola (pinnulæ) parva lateralia elliptica vel suborbicularia, terminalia subrhombea cum lateralibus proximis interdum confluentia, omnia sessilia, paucidentata, subchartacea, utrinque glabra nec nisi glandulis microscopicis adspersa, viridia, subtus pallidiora, punctis lineolisque pellucidis obsoletius notata, epidermide mucigera; petiolus communis perbrevis, nudus, margine hirtellus, rhachium omnium segmenta omnia alata, supra ad lineam medianam puberula; thyrsi solitarii vel in ramulis lateralibus paniculatim congesti, graciles; cincinni stipitati, abbreviati, puberuli; flores mediocres, albidii; sepala exteriora laxius, interiora basi densius puberula; fructus . . . .

*Rami* thyrsigeri diametro 2 mm. *Folia* inferiora 14 cm longa, 9 cm lata; foliola terminalia 2.5 cm longa, 1.2 cm lata, lateralia inferiora (suborbicularia) diametro circ. 1 cm, superiora (elliptica) minora, angustiora; petiolus communis 0.5 cm, vix excedens, rhacheos primariæ segmenta inferiora 2 cm longa, 4 mm lata, superiora decrescentim breviora pinnarum vix 1 cm longa; stipulæ parvæ, ovato-triangulares. *Thyrsi* folia superantes, inferiores 16-18 cm longi, rhachi pedunculum communem glabrum gracilem apice haud raro circinatum subæquante puberula dense cincinnifera; cincinni stipite 4-5 mm longo suffulti, 7-9-flori, puberuli; pedicelli 2.5 longi, prope basin articulati; alabastra ovoidea, pedicellos æquantia. *Flores masculi*: *sepala* interiora 3.5 mm longa. *Petala* spathulata, *sepala* vix superantia, intus laxè glanduligera; squamæ superiores crista emarginato-bifida (laciniis acutis patulis) appendiceque deflexa brevi barbata, inferiores crista sat alta oblique emarginata instructæ. *Tori* glabri glandulæ superiores semiorbiculares, inferiores minores. *Staminum* filamenta pilosiuscula; antheræ glabræ. *Germinis* rudimentum trigonum, glanduligerum, ceterum glabrum.—*Obs.* Affinis *Serj. Cambessedeanæ* Schlecht. et Cham. Sect. xii; cf. Radlk. *Serjanix* (Monogr. p. 290; Suppl., p. 150.)

Guarda Viejo, Dept. Guatemala, alt. 5,000 ft., Febr., 1890 J. D. S., (Ex Pl. cit. 1907).

***Paullinia scarlatina*** Radlk.—Scandens, fructicosa; rami juniores pentagoni puberuli, adultiores subteretes, striati, lenticellorum seriebus notati; corpus lignosum simplex; folia 5-foliolato-pinnata; foliola superiora ex elliptico sublanceolata, inferiora ovata, apice in acumen obtusum producta, basi superiora longius breviusve attenuata, inferiora rotundata, omnia breviter petiolulata, integerrima, vel dente uno alterove notata, chartacea, transversim venosa, præter axillas nervorum subtus barbata glabra, nitidula, glandulis, microscopicis curvatis obsita, utriculis laticiferis reticulatis pellucidis sat crebris supra subtusque instructa, epidermide mucigera; petiolus basi utrinque vasorum fasciculo corticali instructus; rhachis submarginata; stipulatae parvæ, triangulares; thyrsi solitarii, axillares; bracteæ bracteolæque parvæ, subulatae; flores sat magni, sepalis 3-5 fere omnino liberis; fructus ellipsoideus stipitatus, subapiculatus, valvarum costa mediana evanina tricostatus, extus glabriusculus, intus pilis longis fuscidulis dense villosus; semen late ovoideum, ventre subcarinatum, glabrum, arillo dorso fisso usque ad medium obtectum; cotyledones oleigeræ, interior tenuior, transversim plicata.

*Rami* thyrsigeri diametro 3-5 mm, cortice subfusco. *Folia* circ. 16 cm longa totidem lata; foliola 10-12 cm longa, 4.5-5 cm lata, sicca subfusca; petiolus communis 3-4 cm longus, supra sulcatus, rhachis paullo brevior; stipulæ 2.5 mm longæ. *Thyrsi* folia subæquantes, robusti, pedunculo quam rhachis tomentella longiore; rhachis (fructifera) diametro 2-2.5 mm, sat dense cincinnigera, cincinnis sessilibus contractis; pedicelli fructigeri 6-7 mm longi, paullo supra medium articulati. *Sepala* (calycis fructiferi) tomentella, duo exteriora breviora, interiora circa 4 mm longa. *Tori* glandulæ ovatae, pubescentes. (Reliquæ floris partes non suppetebant.) *Fructus* stipite 5-6 mm longo adjecto

2.5–3 cm longus. *Semen* 1.3–1.4, cm longum, testa atro-fusca, pilorum endocarpium impressione leviter striolata, nitidula.—*Obs.* Affinis *Paullinia costata* Schlechtend. et Cham.

Boca del Cajabon, Dept. Yzabal, alt. 350, Apr., 1889, J. D. S. (Ex Pl. cit. 1662).

**Spondias Radlkoferi.**—Leaves 7–9 jugate, about a foot long; leaflets granular-punctate, the upper pairs oblong-lanceolate (30–38 × 10–13 l.), the lower rhomboidal and smaller, obliquely and acutely caudate, midrib and 6–8 costal nerves pubescent: pedicels bracteose at base, shorter than buds, clustered toward apex of short tertiary branches of panicle: calyx-lobes round-ovate, obtuse: disk fleshy, depressed, pulvinate, radiate, pulverulent: anthers small, quadrate: ovary 3–4-locular, styles pointed: fruit not seen.—A species, otherwise similar to *S. lutea* L., to which as probably new my attention has been directed by Prof. L. Radlkofer, the eminent monographer of *Sapindaceæ*.—Escuintla, Dept. Escuintla, alt. 1,100 ft., Apr. 1890, J. D. S., (Ex. Pl. cit. 2087).

**Galactia discolor.**—Fruticose, erect (2–3 ft.), cano-pubescent: stipules filiform; leaflets twice to thrice exceeding petiole, shortly and subequally petiolulate, coriaceous, green and glabrate above, silvery lanate beneath, lanceolate to elliptical-oblong (20–42 × 6–16 l.), the terminal the greater, acute or obtuse at each end, apex mucronate or retuse: racemes subsessile, short (10–18 l.); flowers 6–12, half an inch long, purple: calyx-tube shorter than pedicel and filiform bractlets, its segments 4 times longer and nearly equaling petals: the vexillary round-oval, auriculate, not inflexed, its filament free: ovary silvery lanate.—*G. Fussiæana* HBK., likewise with habit of *Collæa* and flowers of *Eugalactia*, differs chiefly by smaller elliptical leaves emarginate at base with the terminal one remote, minute stipules and bractlets, less deeply parted calyx twice exceeded by roseate petals, the vexillary obovate and exappendiculate.—Santa Rosa, Dept. Baja Verapaz, alt. 5,000 ft., July, 1887, v. Türckheim, (Ex Pl. cit. 1321).

**Oreopanax oligocarpum.**—Arborescent, nitidous except sparsely stellate-pubescent panicle: leaves crowded at apex of branchlets and at intervals below, exstipulate, coriaceous, entire, 3-nerved, lanceolate (6–9 × 1–1 $\frac{3}{4}$  in.), apex acutely produced, base acute, petioles from a third to more than half as long and tumid at each end: panicle sessile, corymbiform,

subequalling petioles; heads small (in anthesis scarcely 2 lines in diameter), much exceeded by peduncles, loosely 5–8-flowered: of masculine flowers calyx obsolete, petals 4 and equaling filaments, styles united; feminine flowers not seen: berries 3–4 to a head, globose-ovoid, sulcate, 6–7-seeded, crowned with persistent radiate styles.—*O. capitata* Dcne. et Planch., a nearly related species, differs by stipulate leaves ovate to obovate, large diffuse panicle of shortly pedunculate many-flowered heads, petals 5, long-exsert stamens and free styles of masculine flowers.—Pansamalá, Dept. Alta Verapaz, alt. 3,800 ft., Apr. 1889, J. D. S., (Ex Pl. cit. 1743). Collected also by Sor. Juan Cooper near Cartago, Costa Rica, alt. 5,000 ft., Mch. 1888, No. 322.

**Parathesis sessilifolia.**—All parts except nitid upper surface of leaves rufo-tomentose with long-stipitate stellate hairs: leaves oblanceolate ( $6-8 \times 1\frac{3}{4}-2$  in.), acuminate produced, tapering from above middle to acute sessile base, pergameneous, subcrenulate, both surfaces nigro-punctate and finely reticulate: panicle terminal, exceeding leaves, pyramidal, lower branches leaf-bracted: flowers 6–10, corymbosely fasciculate toward apex of secondary branches, subequalling pedicels, in all parts linear-maculate, filiform bractlets a half shorter: sepals acutely lanceolate ( $\frac{1}{2}$  l.): segments of corolla linear-lanceolate ( $2\frac{1}{2}$  l.), glabrous within, revolute: anthers affixed near base, oblong ( $1\frac{1}{4}$  l.), thrice exceeding filament: berry 4 l. in diameter.—Peculiar by indument and sessile leaves.—Coban, alt. 4,300 ft., Aug. 1886, v. Türckheim, (Ex Pl. cit. 1443).

**Parathesis pleurobotryosa.**—Fusco-tomentulose: leaves elliptical ( $4-6 \times 1\frac{1}{2}-2$  in.), ends similarly acute, subentire, glabrate above, epunctate, opaque, 14–18 costal nerves distinct: panicles axillary, equalling leaves, racemiform, short branches terminated by 3–5 umbellately clustered minutely bracteolate pedicels equalling scarcely maculate flowers: corolla-segments ochraceo-furfuraceous on both sides: anthers short ( $\frac{3}{4}$  l.), equalling filament: ovary smooth: berry not seen.—Anthers excepted flowers are similar in form and dimensions to those of preceding species. *P. melanosticta* Hemsl., (Ex Pl. cit. 1706), with inflorescence also strictly axillary, differs by glabry, nigro-punctate oblong-elliptical leaves acuminate at apex and long-tapering into petiole with more numerous costal nerves uniting in marginal arches, com-

pound panicles, ovate sepals, half smaller white maculate flowers, lanceolate corolla-segments smooth without and albo-furfuraceous within, pubescent ovary.— Santa Rosa, alt. 5,000 ft., Sept. 1888, v. Türckheim, (Ex pl. cit. 1,442).

**Fimbristemma calycosa.**—Leaves oblong-cordate (4–6 in.), abruptly acuminate: peduncles (6–10 l.) exceeded by petioles, the much longer pedicels cymosely and radiately 6–8 fasciculate, flowers an inch in diameter: segments of calyx oval, pallescent: segments of corolla somewhat longer, narrower, glabrous, dark-yellow, dextrorsely convolute: exterior crown lobeless, densely long-fimbriate; lobes of the interior ovate, equalling fringe, bidentate, naked: anthers appendiculate below with a bicornute wing, caudicle nearly as long as pollen-mass: follicle not seen.—*Fimbristemma*, as limited by Turczaninow and not of Bentham and Hooker, is represented by one other species, *F. gonoloboides* Turcz., which differs *ex char.* by peduncles exceeding petioles and bifid, half larger corolla twice exceeding calyx, lobed exterior crown, lobes of the interior entire and with an inner cucullate appendage, anthers tipped with a membrane. *Callæolepium Warscewiczii* Karst., cited by Benth. & Hook. as a second species of *Fimbristemma*, is maintained by its author to be generically distinct by form of crown, and to belong by position of pollen-masses to the group of *Cynanchææ* rather than to *Gonolobææ*, (Botan. Jahrb. viii. 360).—Chucaneb Mt., Dept. Alta Verpaz, alt. 6,000 ft., Apr. 1889, J. D. S., (Ex Pl. cit. 1,500).

EXPLANATION OF PLATE XVI.—Fig. 1, flowering branch. Fig. 2, flower with calyx and corolla removed. Fig. 3, exterior crown. Fig. 4, interior crown. Fig. 5, pistil. Fig. 6, pollen-masses. (Fig. 1 is natural size; the others are variously enlarged.)

**Nephradenia fruticosa.**—Erect virgate shrub 6–8 ft. high: leaves linear-lanceolate ( $6-8 \times 1-1\frac{1}{4}$  in.), tapering acutely to apex and short (5–7 l.) petioled, eglandular, pale beneath, conspicuous arching veins about 15 to a side: cymes extra-axillary, scarcely half as long as leaves, pedicels exceeded by peduncle and 3–8-subfasciculate in one or two bracteose clusters: corolla rugose, 15-nerved, pale-yellow, 9 lines broad, semi-fid, tube twice exceeding oval ciliate calyx-segments, half-oval lobes naked and emarginate: processes of crown equalling gynostegium, half-free; the adnate half small, triangular, inflated and concavely bilobate at base, margin entire, prolonged into subulate free upper half; pollen-masses

attached at base: stigma convex, exumbonate: immature follicle fusiform, tapering to long stipe.—*N. neriifolia* Benth. et Hook., the nearest congener, is a herbaceous perennial with linear-oblong leaves rounded and glandular at base, ciliate corolla, adnate coronal processes cymbiform, stigma umbonate.—Rocky islands in Rio Rubelcruz, Dept. Alta Verapaz, alt. 2,500 ft., May 1887, v. Türckheim, (Ex Pl. cit. 1,251); same locality, Apr. 1889, J. D. S., (Ex Pl. cit. 1,742).

**Solenophora erubescens.**—Glabrous, rubescent, tumid nodes marked by an interpetiolar line: leaves oval to elliptical-oblong, the larger in the pairs 2–3½ in. long, the other a third smaller, apex acutish, base inequilateral, coriaceous, rubescent beneath, indistinctly sinuate-serrate, petioles from ¼ to ¾ as long as leaves: flowers single on shorter axillary peduncles bibracteate in middle, or few in trichotomous cymes chiefly terminal: calyx coriaceous, 5-costate, rubro-maculate, obconic (9 l.), in flower ¼- and in fruit ½-adnate, lobes ovate (2 l.): corolla infundibuliform, twice exceeding calyx, yellow, ⅔-tubular, limb expanding to 8 lines broad; lobes suberect, transversely oblong (2×5 l.), the interior the greatest and pectinate-crenate: style 2-lobulate: fruit baccate, oval (5 l.), crimson, crowned with persistent 2-lobed gland.—Habit peculiar by glabritiy and small leaves.—Rocks of a waterfall, Pansamalá, alt. 3,800 ft., May 1887, v. Türckheim, (Ex Pl. cit. 731); same locality, Apr. 1889, J. D. S., (Ex Pl. cit. 1,684).

**Besleria Pansamalana** (*Podobesleria* Benth. et Hook.).—Epiphytal, repent, ligneous branches ascending a foot or two, pubescent: leaves shortly petiolate, unequal in the pairs, obovate-oblong (5–6 in.), the lower smaller and obovate-rhomboid, acuminate, base obliquely acute, serrulate above middle, under surface pale-pubescent: peduncles single from one or both uppermost axils, half as long as leaves, 1-flowered: calyx-segments nearly distinct, ovate (4–5 l.), green, pluri-nerved, the 2 exterior narrower: corolla from narrow saccate base horizontally supine, ventricosely calceiform, 14 lines long, less than half as high, crimson; throat facing upwards midway between base and ventral apex, constricted (3 l.); divisions of small limb roundish, unequal, erect: genitals included: cells of anthers forming nearly a circle, connective orbicular: disk annular: style short (3 l.), ⅓-bilobed.—Related to *B. Onogastra* Hanst. by the corolla curiously resembling the lip of *Cypripedium*, but distinct by inflorescence, calyx,

etc.—Pansamalá, alt. 3,800 ft., Jan. 1887, v. Türckheim, (Ex Pl. cit. 196); same locality, Apr. 1889, J. D. S., (Ex Pl. cit. 1,798).

EXPLANATION OF PLATE XVII.—Fig. 1, flowering branch. Fig. 2, corolla laid open. Fig. 3, stamen. Fig. 4, pistil. (Fig. 1 is natural size; the others are variously enlarged.)

**Macfadyena simplicifolia.**—Erect (12–15 ft.), compressed branchlets dichotomous, articulations of petioles and pedicels glandular: leaves simple, elliptical ( $5-7\frac{1}{2} \times 2-3$  in.), acute at each end, beset with cystoliths: flowers few, opposite in terminal short racemose clusters, short pedicels little exceeding subulate bractlets: calyx lanceolate (18–22 l.), acuminate, in anthesis closed at apex and base: corolla twice longer, white, tubulose-infundibuliform, throat  $\frac{1}{2}$  in. wide, lobes roundish (6–9 l.): oblong anther-cells divergent at base, staminode not present: disk cupular: stigma minutely lamellate: ovules 2 to each placenta, superposed, wings hyaline: capsule not seen.—Anomalous by erect habit, simple leaves and terminal inflorescence.—Borders of forest, Pansamalá, alt. 3,800 ft., Aug. 1886, v. Türckheim, (Ex Pl. cit. 1,030).

EXPLANATION OF PLATE XVIII.—Fig. 1, flowering branch. Fig. 2, corolla laid open. Fig. 3, pistil with half of calyx. Fig. 4, anthers. Fig. 5, stigma. Fig. 6, vertical section of ovary. (Figs. 1–3 are natural size; the others are magnified.)

**Henrya imbricans.**—Stems several from base, a foot or more long, decumbent, smooth, white, nodes verrucose: young leaves small (1 in.), ovate, acuminate, mucronate, long petiolate, pubescent: spikes short, densely flowered, 2–3-subfasciculate, axillary, or leafy-bracted in a long slender terminal panicle: bractlets simulating involucre, oblanceolate, mucronate; involucre a third longer (5 l.), imbricating, valves mucronate: corolla large (6 l.), exsert in bud: anther-cells elongate-oblong.—Both *H. scorpioides* Nees and *H. costata* Gray differ conspicuously from above by simply spicate loosely interrupted inflorescence; the former also by glandulose leaves acute at base, minute roundish bractlets, half smaller flowers, elongated style; the latter also by pluricostate shortly petiolate leaves, small cuspidate involucre.—Banks of Laguna Amatitlan, Dept. Amatitlan, alt. 3,900 ft., Febr. 1890, J. D. S., (Ex. Pl. cit. 1,923).

**PISONIA ACULEATA** L., var. **macranthocarpa.**—Spines infra-axillary, straight: pedicels of large (6 in.) cymes  $1\frac{1}{2}-2$  in. long; fruit obovate (9 l.), half as broad, glands long-stipitate.—Escuintla, alt. 1,100 ft., Apr. 1890, J. D. S., (Ex. Pl. cit. 2,091).



**Neea psychotrioides.**—Fruticose (6–8 ft.), dichotomous, smooth except rufo-fuscous pubescence of younger parts and inflorescence, branchlets terete and grayish: leaves subopposite, 4-verticillate at forks, unequal in the pairs, equilateral, oblong ( $4-5 \times 1\frac{1}{4}-1\frac{1}{2}$ ) in., acuminate, base rounded, petioles short (2–4 l.); corymbiform cymes long pedunculate from forks of branches, subequaling leaves, axes 3–5-approximated and in fruit divaricate, cymules 3-flowered; calyculate bracts 2–4, subulate ( $\frac{1}{4}$  l.), persistent: staminate perianth not seen; the pistillate nearly sessile, oval (2 l.), mouth contracted, rudimentary stamens 8–10, ovary globose, style subexsert, stigma dilated: anthocarp ellipsoid ( $3\frac{1}{2} \times 2$  l.), compressed, pubescent, pluristriate, constricted below tomentulose limb.—*N. Wiesneri* Heimerl, nearly related as described and figured in detail (Botan. Jahrb. xi. 89, t. ii), differs by elliptic-lanceolate leaves dimorphous in the pair, terminal 2–3-chotomous open glabrous inflorescence, slender elongated pedicels, ovate-tubulous perianth, fimbriate stigma, glabrous terete anthocarp not striate. *N. oppositifolia* Ruiz et Pav., also related, is distinguished by elongated 5-staminate perianth, etc.—Escuintla, alt. 1,100 ft., Mch. 1890, J. D. S., (Ex Pl. cit. 2,069).

**DALECHAMPIA SCANDENS** L., var. **trisecta.**—Leaves glabrate, elobate and cordate-ovate, or chiefly trisect with petiolulate leaflets.—San Juan Mixtan, Dept. Escuintla, alt. 500 ft., Apr. 1890, J. D. S., (Ex. Pl. cit 2,079.)

**Pirus** (§ PSEUDOSTROBUS) **Donnell-Smithii** Mast.—Arbor altitudine mediocris vel humilis; ramulis crassis asperatis; squamis fulcrantibus 10–12 mm. long. subcoriaceis castaneis lanceolatis longe acuminatis margine laciniato-fimbriatis, fimbriis ascendentibus vix intertextis; fasciculis dense approximatis 5-phyllis basi vaginatis, vaginis circa 12 mm. long. e squamis lanceolatis pluribus constantibus, squamis infimis subcoriaceis ad margines integris sursum paulatim incrementibus, squamis mediis ad margines albidis longe fimbriatis, fimbriis horizontaliter divergentibus intertextis fasciculum obvolventibus, squamis summis hyalinis integris; foliis circa 13 cm. long. 1 mm. et ultra lat. rigidis triquetris ad angulos serrulatis apice subulatis, canalibus resiniferis parvis paucissimis sub epidermide positis? vel nullis; stomatibus in utroque latere per series 6–7 dispositis; amentis masculis pluribus ad apices ramulorum capitatim-aggregatis, singulis 25–30 mm.

long. 5–7 mm. lat. erectis vel ascendentibus rectis cylindratis obtusiusculis basi bracteis subcoriaceis castaneis suffultis, bracteis infimis margine albido-fimbriatis, bracteis summis margine integris albido-limbatis; antherarum connectivis suborbicularibus erosis aurantiaco-purpureis; amentis feminiis pedunculo deflexo crasso impositis, curvatis cylindrato-conicis; squamarum apophysibus valde prominentibus deflexis carnosocoriaceis irregulariter sub-5-angulatis carina transversa brevi notatis, medio depressis, umbone lato deltoideo deflexo; strobilis adultis pendulis circa 10 cm. long. 6–7 cm. lat. cylindrato-oblongis apice obtuse conoideis, (squamis autem siccitate a sese separatis strobilus ovoideo-subglobosus evadit); squamis lignoso-coriaceis crassiusculis apophysibus circa 10 mm. long. 16 mm lat. rhomboideis sub-pyramidatis apice cum umbone excentrico reflexis; seminibus circa 2 cm. long. 5 mm. lat. superne alatis, ala membranacea pallide fusca angusta oblonga margine hinc paullo crassiore recta illinc tenuiore falcatis curvata.—De hac specie insigni et, ut videtur, hactenus indescripta, nec non strobilorum squamarumque notis valde distincta ita in litt. scribit oculatissimus repertor: “Abunde occurrit versus cacumen montis, et etiam ad ejus culmen, ad alt. 12,300 ped. ubi autem arbor pumila 10–12 ped. tantum evadit.” Cl. Godman etiam qui hanc speciem loco eodem observabit abhinc annos triginta tradit hancce arborem cingulam circa montem efficere ad alt. 10,000 ped. usque ad culmen aliis arboribus nullis intermixtis. In opere laudato auspiciis cl. Godman edito et a sollerte Hemsley confecto, cui nomen *Biologia Centrali-Americana*, vol. iii, arbor haecce obiter injecta est, nomine tamen et descriptione omnino praetermissis.—Summit of Volcan de Agua, Dept. Zacatepequez, alt. 12,300, Apr. 1890, J. D. S., (Ex Pl. cit. 2182).

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